Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended) An infra red detector calibration system comprising:

a reference surface which ~~comprises~~ includes a plurality of hollow corner cubes ~~which~~ that are partially reflective and partially emissive; [[,]]

temperature controlling means adapted to maintain the reference surface at a desired calibration temperature; and [[,]]

processing means for receiving an output signal generated by an infrared detector at said the desired calibration temperature, comparing said detector output signal with a predetermined ideal output signal for said desired calibration temperature and calculating a calibration coefficient on the basis of the difference between the detector output signal and the ideal output signal at said desired calibration temperature.

Claim 2. (Original) An infra red detector calibration system according to claim 1 wherein the emissivity of the reference surface is controlled by controlling the temperature of said reference surface.

Claim 3. (Previously Presented) An infra red detector calibration system, according to claim 1, wherein each corner cube comprises a reflective surface and a matt surface to form an effective surface emissivity of N%.

Claim 4. (Original) An infra red detector calibration system according to claim 3, wherein the reflective surface comprises a silvered surface.

Claim 5. (Previously Presented) An infra red detector calibration system according to claim 3, wherein the reflective surface comprises an aluminized surface.

Claim 6. (Previously Presented) An infra red detector calibration system according to claim 3, wherein the matt surface comprises a matt black paint overlying the reflective surface.

Claim 7. (Previously Presented) An infra red detector calibration system according to claim 3, wherein the matt surface comprises a non-reflective surface etched into the reflective surface.

Claim 8. (Previously Presented) A method of calibrating an infra red detector comprising a plurality of detector elements using a reference surface, the method comprising:-

a) presenting the reference surface at a known temperature to an infra red detector;

b) measuring the output of each detector element;

c) comparing the measured output of each detector element with a nominal output for the known reference surface temperature to determine a calibration error at the known temperature; and

d) heating the reference surface to one or more further known temperatures and repeating steps b) and c) to determine a calibration errors for each of the further known temperatures.

Claim 9. (Previously Presented) A method according to claim 8, further comprising the step of calculating a function relating the output error of each detector element to the temperature of the reference surface.

Claim 10. (Original) A method according to claim 9, wherein the function is a polynominal function.

Claim 11. (Previously Presented) A method according to claim 8, further comprising the step of storing the calibration constants for application to readings obtained from the detector.

Claims 12. and 13. (Cancelled)